



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/994,475

11/26/2001

Gene Ciancaglini

MAL-002AUS

7235

48102 7590 03/21/2008  
NETWORK APPLIANCE/BLAKELY  
1279 OAKMEAD PARKWAY  
SUNNYVALE, CA 94085-4040

EXAMINER

KIM, DAVID S

ART UNIT

PAPER NUMBER

2613

MAIL DATE

DELIVERY MODE

03/21/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/994,475	<b>Applicant(s)</b> CIANCAGLINI ET AL.	
	<b>Examiner</b> DAVID S. KIM	<b>Art Unit</b> 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-15, 17-33 and 35-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-15, 17-30, 35, 37 and 38 is/are allowed.
- 6) ☒ Claim(s) 31-33 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Allowable Subject Matter*

1. **Claims 8-15, 17-30, 35, and 37-38** are allowed.
2. The indicated allowability of the previous version of claim 34 (filed on 19 July 2007) is withdrawn in view of the newly discovered reference(s) to Eda (U.S. Patent No. 5,289,302) and Fukui et al. (U.S. Patent No. 6,009,490). Rejections based on the newly cited reference(s) follow.

### *Claim Rejections - 35 USC § 103*

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
5. **Claims 31-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Eda (U.S. Patent No. 5,289,302) in view of Fukui et al. (U.S. Patent No. 6,009,490, hereinafter "Fukui") and Gehlhaar et al. (U.S. Patent No. 5,892,916, hereinafter "Gehlhaar").

**Regarding claim 31**, Eda discloses:

A method comprising:

scheduling packet transmissions over a control channel (wavelength 1 in col. 3, l. 29-32) and a data channel (e.g., wavelength 2 in col. 3, l. 58-60) using a scheduler in a wavelength division multiplexed (WDM) network, the WDM network comprising the scheduler (control node 2 in Fig. 1A), a plurality of nodes (nodes in Fig. 1A), and a plurality of unidirectional optical paths coupling the scheduler and the plurality of nodes to each other (unidirectional links in Fig. 1A), each of the plurality of unidirectional

Art Unit: 2613

optical paths having a control channel (wavelength 1 in col. 3, l. 29-32) and a data channel (e.g., wavelength 2 in col. 3, l. 58-60), said scheduling comprising

sending a first control packet (access right control packet 10) from the scheduler to a first node (e.g., node 4 in Figs. 1A-1J) of the plurality of nodes, wherein the first control packet includes a source node (13 in Fig. 2), a destination node (14 in Fig. 2); and

the plurality of nodes (nodes in Fig. 1A) transmitting and receiving a plurality of data messages on the plurality of unidirectional optical paths using a single wavelength (the nodes in Fig. 1A may all use a single wavelength, e.g., wavelength 1, at various points in time to transmit and receive a plurality of data messages, e.g., col. 4, l. 28-30).

Eda does not expressly disclose that this control message specifies ***a value which corresponds to an amount of information that the source node can transmit***. However, including such a value is a known practice, as exemplified by Fukui (“number of transfer bytes” in Fig. 9). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to include such a value in the control packet of Eda. One of ordinary skill in the art would have been motivated to do this for the intuitively practical consideration of the length of a transmission. That is, Eda does show the ending of a transmission (Fig. 1I) but is relatively silent about the length of such a transmission. Fukui’s teaching is suitable to speak into this silence by providing an applicable practice to address the intuitively practical consideration of the length of a transmission. Otherwise, the network of Eda might be indefinitely occupied by indefinitely long transmissions that monopolize the network resources, thus preventing other potentially pending transmissions.

Eda does not expressly disclose:

using the scheduler to schedule and provision for feedback from the plurality of nodes to the scheduler.

However, notice the well known teaching of polling a plurality of nodes to obtain feedback from the plurality of nodes, as shown by Gehlhaar (e.g., col. 2, l. 35-57, col. 3, l. 11-12). At the time the

invention was made, it would have been obvious to one of ordinary skill in the art to include such polling in the method of the prior art of record. One of ordinary skill in the art would have been motivated to do this since such feedback allows one to manage the resources of the network to ensure optimum performance (Gehlhaar, col. 2, l. 35-38). Accordingly, notice that the scheduler of Eda serves as a network manager for the network, and Gehlhaar teaches that the feedback would go from the network elements to the destination of the network manager (Gehlhaar, col. 2, l. 45-49, col. 3, l. 11-12).

**Regarding claim 32**, Eda in view of Fukui and Gehlhaar discloses:

The method of claim 31, wherein using the scheduler to schedule and provision for feedback from the plurality of nodes to the scheduler comprises:

    sending a third control packet (any suitable control packet after the transmission of two control packets from the scheduler of Eda) over the control channel (wavelength 1 in col. 3, l. 29-32) to each of the plurality of nodes (Gehlhaar, e.g., col. 2, l. 35-57, col. 3, l. 11-12) specifying the scheduler as a destination (Notice that the scheduler of Eda serves as a network manager for the network, and Gehlhaar teaches that the feedback would go from the network elements to the destination of the network manager (Gehlhaar, col. 2, l. 45-49, col. 3, l. 11-12). Accordingly, it obvious for the third control packet to specify the scheduler as the destination node for communications from the network elements to the network manager); and

    receiving the feedback from the plurality of nodes over the data channel as scheduled in the third control packet (One of ordinary skill in the art would recognize that either channel is suitable for carrying response communications (Gehlhaar, e.g., col. 3, l. 11-12) from the nodes to the scheduler. Thus, it is an obvious variation for each of the plurality of nodes sends feedback to the scheduler over the data channel in response to the second control packet.).

**Regarding claim 33**, Eda in view of Fukui and Gehlhaar discloses:

The method of claim 31, further comprising:

    the plurality of nodes simultaneously transmitting and receiving a plurality of data messages on the plurality of unidirectional optical paths (Eda, e.g., transmitting and receiving for each optical terminal in Fig. 2 simultaneously on different wavelengths, col. 4, l. 36-41).

6. **Claim 36** is rejected under 35 U.S.C. 103(a) as being unpatentable over Eda in view of Fukui and Gehlhaar as applied to the claims above, and further in view of Abeysundara et al. (“High-speed local area networks and their performance: a survey”, hereinafter “Abeysundara”).

**Regarding claim 36**, Eda in view of Fukui and Gehlhaar does not expressly disclose:

The method of claim 31, wherein the plurality of unidirectional optical paths are configured into **loops** through which packets are transmitted.

Rather, Eda shows the configuration of unidirectional optical paths into one loop (e.g., Fig. 1A). However, configuring one loop into multiple loops is known in the art, as exemplified by Abeysundara (Fig. 10, primary ring configured into multiple loops). A different physical configuration, as exemplified by Abeysundara for the same loop of Eda would only provide an obvious variation.

#### **Response to Arguments**

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. In particular, notice the application of teachings from Eda and Fukui.

#### **Conclusion**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Majima (U.S. Patent No. 5,369,515) is cited to show a WDM network with a scheduler, a control channel, a data channel, and a plurality of nodes (Fig. 4).

Mukherjee (“WDM-based local lightwave networks. I. Single-hop systems”) is cited to show various transmission protocols based on pretransmission coordination.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID S. KIM whose telephone number is (571)272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N. Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S. K./  
Examiner, Art Unit 2613

/Kenneth N Vanderpuye/  
Supervisory Patent Examiner, Art Unit 2613